

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



10/539539



(43) International Publication Date  
15 July 2004 (15.07.2004)

PCT

(10) International Publication Number  
WO 2004/058679 A2

(51) International Patent Classification<sup>7</sup>: C07C 65/24, 65/40, A61K 31/185, A61P 25/00

(74) Agents: WAGNER, Emily, W. et al.; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).

(21) International Application Number:  
PCT/US2003/041211

(22) International Filing Date:  
19 December 2003 (19.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/435,420 20 December 2002 (20.12.2002) US

(71) Applicant (for all designated States except US): MITOKOR, INC. [US/US]; 11494 Sorrento Valley Road, San Diego, CA 92121 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GHOSH, Soumitra, S. [US/US]; 12334 Pathos Lane, San Diego, CA 92129 (US). PEI, Yazhong [CN/US]; 5185 Seachase Street, San Diego, CA 92130 (US). TANG, Xiao-Qing [CN/US]; 11861 Ramsdell Court, San Diego, CA 92139 (US). LIRAS, Spiros, J. [GR/US]; 12 Kidds Way, Stonington, CT 06378 (US). AHLJANIAN, Michael, K. [US/US]; 5 Stanton Place, Mystic, CT 06355 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LIGANDS OF ADENINE NUCLEOTIDE TRANSLOCASE (ANT) AND COMPOSITIONS AND METHODS RELATED THERETO

(57) Abstract: Compounds which have utility in the treatment of conditions associated with altered mitochondrial function. The compounds having structure (I), including stereoisomers, prodrugs, and pharmaceutically acceptable salts thereof, wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> are as defined herein. Pharmaceutical compositions containing a compound of structure (I), as well as methods relating to the use thereof, are also disclosed.



WO 2004/058679 A2